UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/689,785	10/13/2000	Greg Sadowski	15-4-1139.00	8114

26111 7590 11/05/2004

STERNE, KESSLER, GOLDSTEIN & FOX PLLC
1100 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER	
CHUNG, DANIEL J	
ART UNIT	**PAPER NUMBER**
2672	

DATE MAILED: 11/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/689,785	SADOWSKI, GREG	
	Examiner	Art Unit	
	Daniel J Chung	2672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 July 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *7-13-04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-23 are presented for examination. This office action is in response to the RCE filed on 7-13-2004. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7-13-2004 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Duluk, Jr. et al (6,552,723) in view of May (5,818,168), and further in view of Hanko (6,483,515).

Regarding claim 1, Duluk, Jr. discloses that the claimed feature of a method for spatially compositing digital video images with a tile pattern library, comprising the steps

of: b) choosing a tile pattern from the tile pattern library; c) creating, for a single frame, a compositing window within a display area of a compositor, wherein a first shape of created compositing window matches a second shape of a periphery of chosen tile pattern and wherein created compositing window is formed by pixels within the display area (See Fig 13, 16, 18, col 10 line 3-22, col 26 line 13-67, col 27 line 1-67, col 28 line 1-28, col 33 line 1-11); d) decomposing created compositing window into a first number of contiguous tiles, wherein the first number of contiguous tiles equals a second number of contiguous tiles in chosen tile pattern, wherein a third shape and a first position of each of the contiguous tiles matches a fourth shape and a second position of a corresponding tile in chosen tile pattern, wherein at least one of the third shape and the first position of a first tile of the contiguous tiles is different from at least one of the third shape and the first position of a second tile of the contiguous tiles and wherein each of the contiguous tiles is formed by the pixels within the display area (See Fig 13, 16, 18, col 10 line 3-22, col 26 line 13-67, col 27 line 1-67, col 28 line 1-28, col 33 line 1-11); e) assigning each tile of the contiguous tiles to a corresponding digital video display unit (See Fig 13, 16, 18, col 26 line 13-67, col 27 line 1-67, col 28 line 1-28); and f) receiving, at each contiguous tile of the tiles, an image output of assigned corresponding digital video display unit, thereby spatially compositing the digital video images with the tile pattern library. (See Fig 13, 16, 18, col 26 line 13-67, col 27 line 1-67, col 28 line 1-28, col 34 line 6-40)

Duluk, Jr. does not explicitly disclose that the tile pattern library, which contains different shape and size of tiles, as recited claims. However, such limitation is shown in the teaching of May. (See "tile shape storage means", "look-up table means" in claims, col 4 line 20-27, Also See "the tile shape determining unit" that changes the shape and size of tile depending on application type. [i.e. narrow tiles for text, taller, more rectangular or square tile shape for graphical images and videos] in col 3 line 42-49, col 4 line 20-27 Also see Abstract, col 4 line 14-27, col 4 line 53-56, col 9 line 51-62, col 10 line 6+) It would have been obvious to one skilled in the art to incorporate the teaching of May into the teaching of Duluk, in order to utilize the tile pattern with optimization (i.e. faster and simpler manner of accessibility of each tile pattern), as such improvement is also advantageously desirable in the teaching of Duluk for operating a tiled 3-D graphics pipeline architecture with effective and high performance.

The combination of Duluk and May do not specifically discloses that different shape of tiles for a single frame. However, such limitation is shown in the teaching of Hanko. (See 'different shape of tiles within a window' in Fig 6, col 6 line 7-31, Also see 'non-rectangular display regions' in col 1 line 60-67) It would have been obvious to one skilled in the art to incorporate the teaching of Hanko into the teaching of Duluk and May, in order to efficiently display graphical objects by utilizing the tiled pattern, as such improvement is also advantageously desirable in the teaching of Duluk for operating a tiled 3-D graphics pipeline architecture with optimized manner.

Regarding claim 2, Duluk, Jr. discloses that a) counting the digital video display units from which the image outputs will be spatially composited by the compositor such that counted digital video display units determine a maximum for the second number of the tiles in chosen tile pattern. (See col 10 line 3-67, col 11 line 1-17, col 20 line 61-67, col 22 line 16-17, col 26 line 51-63)

Regarding claims 3 and 10, Duluk, Jr. discloses that each frame in a dynamic sequence of frames of the digital video images. (See col 10 line 3-11, col 19 line 15-30)

Regarding claim 4, Duluk, Jr. discloses parameters that define each of the contiguous tiles are variable. (See col 26 line 13-67, col 27 line 1-65)

Regarding claim 5, Duluk, Jr. discloses that an area of each of the contiguous tiles is a function of a complexity of the image output of assigned corresponding digital video display unit. (See col 1 line 58-64, col 3 line 38-65, col 6 line 38-44, col 25 line 60-67, col 26 line 13-67, col 27 line 1-65)

Regarding claim 6, Duluk, Jr. discloses that chosen tile pattern takes into account the complexity of the image output of each of counted digital video display units. (See col 1 line 58-64, col 3 line 38-65, col 6 line 38-44, col 25 line 60-67)

Regarding claim 7, Duluk, Jr. discloses that the function is an inverse function. (See col 1 line 58-64, col 3 line 38-65, col 6 line 38-44, col 25 line 60-67, col 26 line 13-67, col 27 line 1-65)

Regarding claim 8, Duluk, Jr. discloses that steps are performed by a tile compositing controller. (See col 8 line 53-65)

Regarding claim 9, Duluk, Jr. discloses that after step d), the step of communicating, to the compositor, first parameters that define the compositing window and second parameters that define each of the contiguous tiles. (See col 32 line 62-67, col 33 line 1-11)

Regarding claim 10, Duluk, Jr. discloses that communicating step occurs within a frame of the digital video images. (See col 10 line 3-11, col 32 line 62-67, col 33 line 1-11, col 34 line 6-30)

Regarding claims 11-13, Duluk, Jr. discloses that communicating step occurs through first channel separate from second channel used to communicate the frame of the digital video images, and communicating step minimizes an amount of data, obtaining an index code, needed to convey the parameters that define the compositing window and the parameters that define each of the contiguous tiles.

Regarding claims 14-17, claims 14-17 are similar in scope to the claims 1-2 and 8-9, and thus the rejections to claims 1-2 and 8-9 hereinabove are also applicable to claims 14-17.

Regarding claims 18-19 and 21, Duluk, Jr. fails to teach that communications medium meets Digital Visual Interface specifications, and communications medium is a Transitional Minimized Differential Signal data link and Inter Integrated Circuit bus. However, this would have been obvious to one having ordinary skill in the art at the time of Applicant's invention, in order to provide correct data type through a communication mediums, which are available for commercial.

Regarding claims 20 and 22-23, claims 20 and 22-23 are similar in scope to the claims 10 and 12-13, and thus the rejections to claims 10 and 12-13 hereinabove are also applicable to claims 20 and 22-23.

Response to Arguments/Amendments

Applicant's arguments with respect to claims 1-23 have been considered but are moot in view of the new ground(s) of rejection. Specifically, in response to the applicant's argument that the cited references do not discloses that tiles have the different shape and size, Hanko clearly shows such limitation. (See 'different shape of

tiles within a window' in Fig 6, col 6 line 7-31, Also see 'non-rectangular display regions' in col 1 line 60-67)

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Chung whose telephone number is (703) 306-3419. He can normally be reached Monday-Thursday and alternate Fridays from 7:30am- 5:00pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael, Razavi, can be reached at (703) 305-4713.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9306 (Central fax)

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

djc
October 15, 2004

MICHAEL RAZAVI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600